

Remarks/Arguments

The Examiner is thanked for the careful review of this Application. Claims 1-20 are pending after entry of the present Amendment. This Amendment is being presented in the new format, as suggested.

Rejections under 35 U.S.C. § 102:

The Office has rejected claims 1, 2, 4, 5-14, and 16-19 under 35 U.S.C. 102(e) as being anticipated by United States Patent No. 6,279,011 to Muhlestein. It is respectfully submitted that Muhlestein fails to disclose each and every element of the claimed invention, as defined in independent claims 1, 5, 10, and 16.

Muhlestein discloses a file sever that can provide for backing up and restoring of files in a heterogeneous file server environment. Specifically, in backing up, the file server of Muhlestein records each element of Unix metadata as an NT Extended attribute for use by an NT backup element. Then, in restoring, the NT Extended attributes provided by the NT restore element are translated into Unix metadata.

It is submitted that Muhlestein fails to disclose each and every feature of the claimed invention. For instance, among other features, Muhlestein fails to disclose a driver for supplementing requests from the first file system to a storage device that is defined in the consumer node. In paragraph 4 of the Office Action, the Office asserts that the alleged consumer node (element 120 of Muhlestein) has driver for supplementing requests from the file systems to storage devices (element 210 of Muhlestein). In making such assertion, the Office fails to specifically point out the alleged driver component. Even if Muhlestein implements a driver (a proposition with which Applicant disagrees), the Office has failed to establish that the driver is implemented to supplement the requests from the consumer node.

Furthermore, the file server of Muhlestein does not include a translator layer that is configured to map the supplemented requests from the first file to the second file system and back to the first file system. Rather, the file server of Muhlestein records each item of metadata in a selected file in an analogous record. That is, if the metadata is a Unix metadata,

the Unix metadata is converted to the analogous record in NT and vice versa. As can be appreciated, in contrast to the claimed invention wherein the supplemented request is mapped from the first file system to the second file system, Muhlestein converts the metadata from a first system to a second system. In this manner, the file server includes a one-on-one converter/translator for each pair of file systems. As pointed out in the Background of the Invention, eliminating the limitation of having to work with one-on-one conversion/translation systems is one of many advantages of the present invention.

Furthermore, as described on pages 34 and 35 of the specification, for example, the supplemented request of the claimed invention is mapped (i.e., reformatted) to the equivalent type of request in the second file system. In this manner, requests from several file systems each having a different environment can be mapped or reformatted to the specific equivalent request in the second file system. As a result, the embodiments of the claimed invention eliminate the need to have separate converters or translators for each pair of file systems. Thus, described above, Muhlestein fails to disclose each and every feature of the claimed invention, as claimed in independent claim 1.

In a like manner, Muhlestein fails to disclose each and every feature of the claimed invention, as defined in independent claims 5 and 16. Among other features disclosed in claims 5 and 16, Muhlestein fails to perform discovery of the desired I/O node, enumerate the I/O node, enumerate devices connected to the I/O node, communicate a read request to a particular device of the enumerated devices associated with the desired I/O node, intercept the read request before communication over the nexus, and supplement the read request for communication over the nexus. Furthermore, Muhlestein fails to disclose determining the type of the consumer node to have a first file system, loading the metadata of the second file system at the I/O node, and mounting using the reformatted metadata by the consumer node, as disclosed in claim 16. As described in more detail with respect to independent claim 1, Muhlestein does not disclose the independent storage driver. As such, without the driver the read request of Muhlestein can neither be intercepted nor be supplemented.

As to independent claim 10, among other features, Muhlestein fails to disclose determining file system type of the consumer node to be a first file system, loading metadata for the second file system at the I/O node, and reformatting of the second file system at the I/O node so that the metadata of the second file system substantially matches the metadata of

the first file system. In this manner, beneficially, using the same translator layer, the metadata of the first file system can be reformatted to match the metadata format of several different types of file system. This is contrary to Muhlestein wherein the metadata of the second file system is converted to the metadata of the first file system.

Accordingly, independent claims 1, 5, 10, and 16 are respectfully submitted to be patentable under 35 U.S.C. § 102(e) over M. In a like manner, dependent claims 2, 4, 6-9, 11-14, and 17-19 each of which directly or indirectly depends from the applicable independent claim are submitted to be patentable under 35 U.S.C. § 102(e) over Muhlestein for at least the reasons set forth above regarding the independent claims 1, 5, 10, and 16.

Rejections under 35 U.S.C. § 103:

The Office has rejected claims 3, 15, and 20 under U.S.C. 103(a), as being unpatentable over Muhlestein in view of United States Patent 5,758,153 to Atsatt et al. (hereinafter referred to as "Atsatt"). Applicant respectfully traverses the Office's rejections and submits that independent claims 1, 10, and 16 are patentable over the cited references, as no combination of the cited prior art would have suggested the claimed invention to one of ordinary skill in the art.

Muhlestein focuses on file servers that provide for backing up and restoring of files in a heterogeneous file server environment. In doing so, Muhlestein teaches converting of metadata from Unix to Windows NT and vice versa. The second cited reference, Atsatt, teaches using object oriented programming to modify and extend class properties and operations. The Office acknowledges that Muhlestein does not teach, disclose, or suggest using a dynamic flat file system. However, the Office refers to Abstract of Atsatt, asserting that Atsatt discloses a dynamic file system. As such, the Office contends that it would have been obvious to one of ordinary skill in the art to recognize the desirability and advantages of modifying Muhlestein by employing the well-known or conventional feature of the second file system.

As will be fully explained below, the combination of Muhlestein in view of Atsatt does not raise a *prima facie* case of obviousness against independent claims 1, 10, and 16. To establish a *prima facie* case of obviousness based on a combination of references, there must

be some suggestion or motivation, either in the references or in the knowledge generally available to one having ordinary skill in the art, to combine the references in the manner proposed. As will be explained below, the Office has not established a *prima facie* case of obviousness against the claimed subject matter because one having ordinary skill in the art would not have combined Muhlestein and Atsatt in the manner proposed by the Office.

First, as described in more detail above, Muhlestein does not teach, disclose, or suggest several of the features of the claimed invention, as defined in independent claims 1, 10, and 16. For instance, Muhlestein fails to teach using a driver (as defined in claim 1), supplementing the request from the first file system to the second file system (as defined in claim 1), a translator layer to map the supplemented requests from the first file system to the second file system (as defined in claim 1), reformatting of the metadata of the second file system at the I/O node so that the reformatted metadata of the second file system matches the metadata format of the first file system (as defined in claims 10 and 16), performing discovery and enumeration of the desired I/O node (as defined in claim 16), communicating an I/O request to a particular device of the enumerated devices (as defined in claim 16), supplementing the request (as defined in claim 16), and determining the file system type of the consumer node (as defined in claim 16).

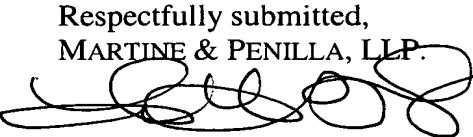
Second, contrary to the Office's contention, Atsatt would not have encouraged one of ordinary skill in the art to modify Muhlestein by implementing file systems having flat entities because Atsatt discourages one of ordinary skill in the art from using file systems having flat entities. In fact, in column 7, lines 33-38, Atsatt emphasizes the disadvantages of using flat file system entities rather than hierarchical file system entities, attributing the disadvantages to the lack of inheritance in the flat file systems. In stark contrast, the claimed invention focuses on the disadvantages of the hierarchical file systems. Accordingly, one reading the teachings of Atsatt would not have been motivated to modify Muhlestein to include a file system having flat entities.

Therefore, it is respectfully submitted that independent claims 1, 10, and 16 are patentable under 35 U.S.C. § 103(a) over any combination of the cited prior art. In a like manner, dependent claims 3, 15, and 20 which incorporate each and every element of the respective independent claim 1, 10, and 16 are patentable under 35 U.S.C. § 103(a) over any combination of the cited prior art for at least the same reasons discussed above.

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Amtd. dated July 11, 2003
Reply to Office action of April 11, 2003

The Applicant respectfully requests examination on the merits of the subject application, and respectfully submits that all of the pending claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If the Examiner has any questions concerning the present amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6900, ext. 6913. If any additional fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. INSTP002). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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